



Figure 5-figure supplement 2. Onset single-unit activity is better captured by threat probability than a binary output. We compared (A & B) regression as performed in manuscript to (C & D) regression performed with a binary regressor (danger = 1, uncertainty & safety = 0). Beta coefficients are plotted as mean \pm SEM (probability, green; binary, teal; total fear, dark gray; interval fear, light gray). Separate regression is performed to avoid multicollinearity; the probability and binary regressors are highly correlated ($R^2 = 0.77$). ANOVA for beta coefficients using analysis (probability vs. binary), regressor and interval as factors found an analysis x regressor x interval interaction ($F_{18,504} = 2.51$, $p = 5.89 \times 10^{-4}$). ANOVA for only the first 1 s interval found an analysis x regressor interaction ($F_{2,56} = 7.80$, $p = 1.03 \times 10^{-3}$). The activity of vIPAG single-units was better captured by the regressor that reflected the actual foot shock probability (uncertainty = 0.375) over a regressor that equated uncertainty to safety (uncertainty = 0.00).